In The Claims:

Please amend Claim Nos. 1 and 8 as follows. Claim Nos. 47-49 have been added. A listing of claims follows:

1. (Currently Amended) A line card in a network element comprising:

a deframer unit to receive a Time Division Multiplexing (TDM) signal, the TDM signal including a payload and overhead data, the deframer to generate frame alignment data based on the overhead data;

a packet engine unit coupled to the deframer unit, the packet engine unit to receive the payload, the overhead data and the frame alignment data and to generate a number of packet engine packets, wherein a payload of a packet engine packet stores one frame within the TDM signal such that the packet engine packets include the payload and the frame alignment data; and

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a packet processor coupled to the ~~deframer~~ <u>packet engine</u> unit, the packet processor to receive the packet engine packets and to generate network packets based on the packet engine packets.

2. (Previously Presented) The line card of claim 1, wherein the packet engine packets include the payload, the overhead data and the frame alignment data.

3. (Previously Presented) The line card of claim 1, wherein the TDM signal includes a Digital Signal (DS)-1 signal.

4. (Previously Presented) The line card of claim 1, wherein the TDM signal includes a Digital Signal (DS) – 3 signal.

5. (Previously Presented) The line card of claim 1, wherein the TDM signal includes an E1 signal.

6. (Previously Presented) The line card of claim 5, wherein the packet processor compresses the DS0 signals.

7. (Previously Presented) The line card of claim 1, wherein the packet processor separates Digital Signal (DS) – 0 signals from within the TDM signal.

8. (Currently Amended) A network element comprising:

a number of line cards, each of the number of line cards including:

a deframer unit to receive a Time Division Multiplexing (TDM) signal, the TDM signal including a payload and overhead data, the deframer to generate frame alignment data based on the overhead data;

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a packet engine unit coupled to the deframer unit, the packet engine unit to receive the payload, the overhead data and the frame alignment data and to generate a number of packet engine packets, wherein a payload of a packet engine packet stores one frame within the TDM signal such that the packet engine packets include the payload and the frame alignment data; and

a packet processor coupled to the ~~deframer~~ packet engine unit, the packet processor to receive the packet engine packets and to generate network packets based on the packet engine packets; and

at least one control card coupled to a number of line cards.

9. (Previously Presented) The network element of claim 8, wherein the TDM signal includes a Digital Signal (DS)-1 signal.

10. (Previously Presented) The network element of claim 8, wherein the TDM signal includes a Digital Signal (DS) – 3 signal.

11. (Previously Presented) The network element of claim 8, wherein the TDM signal includes a J1 signal.

12. (Previously Presented) The network element of claim 8, wherein the packet processor separates a number of Digital Signal (DS) – 0 signals from within the TDM signal.

13. (Previously Presented) The network element of claim 12, wherein the packet processor for each of the line cards forwards the number of DS0 signals out to any of the number of line cards based on forwarding tables, wherein any of the number of DS0 signals from any of the number of line cards can be combined to form a DS1 signal.

14. (Previously Presented) The network element of claim 13, wherein the DS1 signal is transmitted out from the line cards.

15. (Previously Presented) The network element of claim 12, wherein the packet processor compresses the DS0 signals.

16. (Previously Presented) A method comprising:

receiving a TDM signal that includes overhead data and payload data;

generating frame alignment data based on locations of frame boundaries within the TDM signal;

placing the TDM signal into packet engine packets based on the frame boundaries within the TDM signal, wherein the overhead data, the payload data and the frame alignment data are within packet engine packets, such that each packet engine packet corresponds to a frame within the TDM signal; and

encapsulating the packet engine packets into network packets.

17. (Previously Presented) The method of claim 16, wherein the TDM signal includes a Digital Signal (DS) – 1 superframe signal, such that each packet engine packet includes a DS1 frame of the DS1 superframe signal.

18. (Previously Presented) The method of claim 16, wherein the TDM signal includes a Digital Signal (DS) – 1 extended superframe signal, such that each packet engine packet includes a DS1 frame of the DS1 extended superframe signal.

19. (Previously Presented) The method of claim 16, wherein the TDM signal includes a Digital Signal (DS) – 3 signal, such that each packet engine packet includes a subframe of the DS3 signal.

20. (Previously Presented) The method of claim 16, wherein the network packets include Internet Protocol packets.

21. (Previously Presented) A method comprising:

receiving a first Time Division Multiplexing (TDM) signal that includes overhead data and payload data;

determining frame boundaries within the first TDM signal;

placing the first TDM signal into first packet engine packets based on the frame boundaries within the first TDM signal, wherein a payload of a packet engine packet stores one frame within the TDM signal;

receiving a second TDM signal;

placing the second TDM signal into second packet engine packets, independent of frame boundaries within the second TDM signal; and

generating network packets from the first and second packet engine packets using a same packet processor.

22. (Previously Presented) The method of claim 21, wherein determining the frame boundaries with the first TDM signal includes generating frame alignment data for the first TDM signal.

23. (Previously Presented) The method of claim 22, wherein placing the first TDM signal into first packet engine packets includes placing the overhead data, the frame alignment data and the payload data into the first packet engine packets.

24. (Previously Presented) The method of claim 21, wherein the first and second TDM signals include a Digital Signal (DS) – 3 signal.

25. (Previously Presented) The method of claim 21, wherein the first and second TDM signals include a Digital Signal (DS) – 1 signal.

26. (Previously Presented) The method of claim 21, wherein the TDM signal includes an E3 signal.

27. (Previously Presented) A machine-readable medium that provides instructions, which when executed by a machine, cause said machine to perform operations comprising:

receiving a TDM signal that includes overhead data and payload data;

generating frame alignment data based on locations of frame boundaries within the TDM signal;

placing the TDM signal into packet engine packets based on the frame boundaries within the TDM signal, wherein the overhead data, the payload data and the frame alignment data into packet engine packets, such that packet engine packet corresponds to a frame within the TDM signal; and

encapsulating the packet engine packets into network packets.

28. (Previously Presented) The machine-readable medium of claim 27, wherein the TDM signal includes a Digital Signal (DS) – 1 superframe signal, such that each packet engine packet includes a DS1 frame of the DS1 superframe signal.

29. (Previously Presented) The machine-readable medium of claim 27, wherein the TDM signal includes a Digital Signal (DS) – 1 extended superframe signal, such that each packet engine packet includes a DS1 frame of the DS1 extended superframe signal.

30. (Previously Presented) The machine-readable medium of claim 27, wherein the TDM signal includes a Digital Signal (DS) – 3 signal, such that each packet engine packet includes a subframe of the DS3 signal.

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31. (Previously Presented) The machine-readable medium of claim 27, wherein the TDM signal includes an E1 signal.

32. (Previously Presented) The machine-readable medium of claim 27, wherein the network packets include Internet Protocol packets.

33. (Previously Presented) A machine-readable medium that provides instructions, which when executed by a machine, cause said machine to perform operations comprising:

receiving a first Time Division Multiplexing (TDM) signal that includes overhead data and payload data;

determining frame boundaries within the first TDM signal;

placing the first TDM signal into first packet engine packets based on the frame boundaries within the first TDM signal;

receiving a second TDM signal;

placing the second TDM signal into second packet engine packets, independent of frame boundaries within the second TDM signal; and

generating network packets from the first and second packet engine packets using a same packet processor.

34. (Previously Presented) The machine-readable medium of claim 33, wherein determining the frame boundaries with the first TDM signal includes generating frame alignment data for the first TDM signal.

35. (Previously Presented) The machine-readable medium of claim 34, wherein placing the first TDM signal into first packet engine packets includes placing the overhead data, the frame alignment data and the payload data into the first packet engine packets.

36. (Previously Presented) The machine-readable medium of claim 33, wherein the first and second TDM signals include a Digital Signal (DS) – 3 signal.

37. (Previously Presented) The machine-readable medium of claim 33, wherein the first and second TDM signals include a Digital Signal (DS) – 1 signal.

38. (Previously Presented) The machine-readable medium of claim 33, wherein the TDM signal includes a J1 signal.

39. (Previously Presented) The line card of claim 1, wherein the frame alignment data includes a boundary of a superframe, the superframe to include a number of frames within the TDM signal.

40. (Previously Presented) The network element of claim 8, wherein the frame alignment data includes a boundary of a superframe, the superframe to include a number of frames within the TDM signal.

41. (Previously Presented) An apparatus comprising:

a packet processor to receive network packets, wherein payloads of the network packets are to include portions of a number of packet engine packets, the packet processor to extract the payloads of the network packets;

a packet engine unit coupled to the packet processor, the packet engine unit to receive the payloads of the network packets, the packet engine unit to reconstruct the number of packet engine packets, wherein a packet engine packet corresponds to a frame of a TDM signal and includes frame alignment data for the TDM signal, the frame alignment data to include a boundary of a superframe, wherein the superframe is to include a number of frames within the TDM signal; and

a framer unit coupled to the packet engine unit, the framer unit to receive the frames of the TDM signal and the frame alignment data, wherein the framer unit is to reconstruct the superframes within the TDM signal.

42. (Previously Presented) The apparatus of claim 41, wherein the TDM signal includes a Digital Signal (DS)-1 signal.

43. (Previously Presented) The apparatus of claim 41, wherein the TDM signal includes a Digital Signal (DS) – 3 signal.

44. (Previously Presented) The apparatus of claim 41, wherein the TDM signal includes an E1 signal.

45. (Previously Presented) The apparatus of claim 45, wherein the packet processor compresses the DS0 signals.

46. (Previously Presented) The apparatus of claim 41, wherein the packet processor separates Digital Signal (DS) – 0 signals from within the TDM signal.

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47. (New) An apparatus comprising:

a line card, to be used in a network element, including,

a deframer unit to deframe a frame that includes overhead data and a payload that is either TDM data or packet based data, the deframer to generate frame alignment data based on said overhead data when said payload is TDM data,

a packet engine unit, coupled to the deframer unit, to generate a packet engine packet that includes the payload, the frame alignment data, and the overhead data from said frame when said payload of said frame is TDM data, and to locate packet boundaries within the payload of said frame when said payload of said frame is packet based data, and

a packet processor coupled to the packet engine, to deframe the TDM data into lower layer frames and add a header to each to generate network packets when said payload of said frame is TDM data, and to generate network packets based on the payload and the located packet boundaries when said payload of said frame is packet-based data.

48. (New) The apparatus of claim 47, wherein the packet processor also to compress one or more of said lower layer frames.

49. (New) The apparatus of claim 47, wherein the packet processor to cause one or more of said lower layer frames to be compressed at a remote location before generation of said network packets.